



# TECHNICAL SERVICE BULLETIN

## 3.5L EcoBoost - Cold Start Ticking/Tapping Or Rattle Type Noise - Built On Or Before 10-Jul-2018

**20-  
2191**  
04 June  
2020

### Model:

<b>Ford</b> 2017-2018 F-150	Engine: 3.5L EcoBoost
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**Issue:** Some 2017-2018 F-150 vehicles built on or before 10-Jul-2018 and equipped with a 3.5L EcoBoost engine may exhibit a ticking/tapping or rattle type noise from the top front cover area of the engine on initial start-up after a cold soak of 6 hours or more that may last for 2-5 seconds. This may be due to a worn variable cam timing (VCT) unit. To correct the condition, follow the Service Procedure steps to replace the VCT units and update the powertrain control module (PCM) calibration with revised VCT parameters.

**Action:** Follow the Service Procedure steps to correct the condition on vehicles that meet the following criteria:

- 2017-2018 F-150
- Built on or before 10-Jul-2018
- 3.5L EcoBoost engine
- Customer symptom of ticking/tapping or rattle noise from the front cover area after a cold start

**NOTE:** Part quantity refers to the number of that service part number required, which may be different than the number of individual pieces. Service part numbers contain 1 piece unless otherwise stated. "As Needed" indicates the part is required but the number may vary or is not a whole number; parts can be billed out as non-whole numbers, including less than 1. "If Needed" indicates the part is not mandatory.

### Parts

Part Number		Description	Quantity
HL3Z-6256-CD	Package Contains 1 Piece, 2 Pieces Required	Intake VCT Unit	2
HL3Z-6C525-CD	Package Contains 1 Piece, 2 Pieces Required	Exhaust VCT Unit	2
HL3Z-6279-A	Package Contains 1 Piece, 4 Pieces Required	VCT Unit Bolt	4
HL3Z-9H486-A	Package Contains 6 Pieces, 6 Pieces Required	Upper Intake Manifold Gaskets	1
HL3Z-6584-B	-	Left Valve Cover Gasket	1
HL3Z-6584-A	-	Right Valve Cover Gasket	1
W503275-S437	Package Contains 4 Pieces, 1 Piece Required	High Pressure Fuel Tube Retaining Bolt	1
		High Pressure Fuel Tube Retaining Bolt	1

W503280-S437	Package Contains 4 Pieces, 1 Piece Required		
HL3Z-9J323-C	-	High Pressure Pump to Rail Tube	1
W714498-S900	Package Contains 4 Pieces, 2 Pieces Required	High Pressure Pump Mounting Bolt	1
AA5Z-9E583-A	-	High Pressure Pump O-ring	1
HL3Z-8507-A	-	Coolant Pump Gasket	1
BR3Z-8527-A	-	Coolant Pump O-ring	1
HL3Z-6A340-A	-	Crankshaft Pulley Shaft Bolt	1
XW4Z-6700-AA	-	Front Crankshaft Seal	1
BR3Z-6020-A	-	Front Cover Coolant Pipe Seal	1
BR3Z-6C535-A	-	Oil Pump Electrical Connector Seal	1
AA5Z-6714-A	-	Oil Filter	1
HL3Z-9439-A	Package Contains 3 Pieces, 6 Pieces Required	Camshaft Cover To Intake Gasket	2
TA-357	-	Motorcraft® High Performance Engine RTV Silicone	As Needed
ZC-30-A	-	Motorcraft® Silicone Gasket Remover	As Needed
ZC-31-B	-	Motorcraft® Metal Surface Cleaner	As Needed
VC-3-B	-	Motorcraft® Orange Antifreeze/Coolant Concentrated (All Markets Except Canada)	As Needed
CVC-3-B2	-	Motorcraft® Orange Antifreeze/Coolant Concentrated (Canada Only)	As Needed
VC-13-G	-	Motorcraft® Yellow Antifreeze/Coolant Concentrated (All Markets Except Canada)	As Needed
CVC-13-G	-	Motorcraft® Yellow Antifreeze/Coolant Concentrated (Canada Only)	As Needed
XO-5W30-Q1SP	-	Motorcraft® SAE 5W-30 Premium Synthetic Blend Motor Oil (All Markets Except Canada)	As Needed
CXO-5W30-LSP6	-	Motorcraft® SAE 5W-30 Super Premium Motor Oil (Canada Only)	As Needed
Inspect And Replace Only If Necessary			
BR3Z-6C535-A	-	VCT Oil Control Seal	If Needed
BR3Z-6C535-B	-	Spark Plug Tube Seal	If Needed

HL3Z-9417-A	-	High Pressure Pump Mounting Plate Seal	If Needed
BL3Z-9374-A	-	High Pressure Pump Mounting Plate O-ring	If Needed
HL3Z-8507-D	-	Thermostat Housing O-ring	If Needed
HL3Z-8527-A	-	Thermostat Housing O-ring	If Needed
HL3Z-8590-A	-	Water Pump Outlet O-ring	If Needed

**Warranty Status:** Eligible under provisions of New Vehicle Limited Warranty (NVLW)/Emissions Warranty/Service Part Warranty (SPW)/Special Service Part (SSP)/Extended Service Plan (ESP) coverage. Limits/policies/prior approvals are not altered by a TSB. NVLW/Emissions Warranty/SPW/SSP/ESP coverage limits are determined by the identified causal part and verified using the OASIS part coverage tool.

### Labor Times

Description	Operation No.	Time
2017-2018 F-150 3.5L EcoBoost: Replace All 4 VCT Units And Reprogram The PCM (Do Not Use With Any Other Labor Operations)	202191A	10.0 Hrs.
2017-2018 F-150 Raptor 3.5L EcoBoost: Replace All 4 VCT Units And Reprogram The PCM (Do Not Use With Any Other Labor Operations)	202191B	10.1 Hrs.

### Repair/Claim Coding

Causal Part:	6256
Condition Code:	42

### Service Procedure

1. Replace all 4 VCT units. Refer to WSM, Section 303-01. Do not replace any additional VCT or engine timing related components not included in the Parts List.
2. Reprogram the PCM using the latest software level of the appropriate Ford scan tool.

**NOTE: Advise the customer this vehicle is equipped with an adaptive transmission shift strategy which allows the vehicle's computer to learn the transmission's unique parameters and improve shift quality. When the adaptive strategy is reset, the computer will begin a relearning process. This relearning process may result in firmer than normal upshifts and downshifts for several days.**

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NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford or Lincoln dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article. The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supersede this information with updates. The most recent information is available through Ford Motor Company's on-line technical resources.